

REMARKS

Reconsideration and allowance of the subject patent application are respectfully requested.

The specification has been amended to add headings. The abstract has also been amended. Entry of these amendments to the specification and abstract is respectfully requested.

Claims 1-9 have been amended to place them in a more traditional U.S. format. These amendments are not made for any reasons relating to patentability.

Claims 1-9 were rejected under 35 U.S.C. Section 102(b) as allegedly being "anticipated" by Nakayama *et al.* (U.S. Patent No. 5,674,583). For the reasons set forth below, Applicants traverse this rejection.

Claim 1 describes a data storage medium including an optical information carrier which comprises a spiral-wound polymer film. The basic concept of a spiral-wound data storage medium is disclosed in German Utility Model 298 16 802 (corresponding to U.S. Patent 6,386,458) which shows a polymer film wound in a plurality of plies onto a winding core in a spiral fashion. This document is identified and discussed on page 1 of the subject patent application. In this existing data storage medium, however, the winding core is a disruptive factor, since its optical quality is inadequate unless it is manufactured with a high degree of elaborateness. Since, when the data storage medium is used in a data drive whose read/write device is situated in the recess of the winding core, the winding core is required to transmit a beam several times during each read operation, inadequate optical quality has particularly unfavorable consequences.

The data storage medium of claim 1 can, among other things, provide improvements over the aforementioned existing data storage medium such that, for example, no problems arise as a consequence of the inadequate optical quality of a winding core and the data storage medium can be manufactured economically. The idea is to provide a data storage medium using no winding core at all. For example, according to claim 1, the central area of the data storage medium is provided with a recess whose periphery is formed by the innermost winding of the spirally-wound polymer film.

With respect to claim 1, the office action alleges with reference to Figure 4(d) that Nakayama *et al.* discloses a spiral-wound polymer film 2. However, Figure 4(d) of Nakayama *et al.* is a cross-section view taken along the line D-D in Figure 5 and does not show any spiral-winding of a polymer film. Figure 6 shows an optical tape wrapped around a hollow cylinder 33, but the tape is wrapped around the cylinder in a helical, not spiral, manner. *See, e.g.,* Figure 6 and col. 7, lines 7-11. This is a significant difference. For example, in a spiral, the radius of curvature of the windings increases when going away from the center of the spiral in a radial direction, whereas in a helix, the radius of curvature is constant.

When the tape of Nakayama *et al.* is in a spiral-wound state, it is wound onto a reel, and hence the data storage medium is not provided with a recess in its central area, but instead has the hub of the reel in its center area. When the Nakayama *et al.* tape is in the state cited in the office action, *i.e.,* the state shown in Figure 6, the tape is not in a spiral-wound state, as noted above. Thus, for example, there is no innermost winding of the optical tape. In addition, in the state shown in Figure 6, the periphery of the hollow cylinder is formed by the cylinder wall, not a winding (innermost or otherwise) of the optical tape.

Because Nakayama *et al.* at least does not disclose a spiral-wound polymer film or a recess whose periphery is formed by a winding of the polymer film, Nakayama *et al.* cannot anticipate claim 1.

Claims 2-9 each references claim 1 and thus Nakayama *et al.* likewise does not disclose the subject matter of these claims. In addition, these claims contain further patentable features. By way of example, claim 4 describes the optional feature that the refractive index of the adhesion layer differs only slightly from the refractive index of the polymer film. First, Applicants traverse the implication on page 3 of the office action that the specification does not describe "only slightly." Specifically, page 3, line 37 to page 4, line 8, for example, provides support for this claim language and describes that a difference of less than 0.005 is "particularly advantageous." Second, even assuming for the sake of argument that layer 28 is argued to be an adhesive layer (a feature not ascribed to layer 28 in Nakayama *et al.*), Nakayama *et al.* provides no teaching as to what the refractive indices of layers 2 and 28 are or should be. Thus, there is no basis for saying, as in the office action, that the interface layers of 2 and 28 at their contact point have a refractive index which differs only slightly from their respective main layers.

Claim 7 describes that the data storage medium of claim 1 is produced by spirally-winding the polymer film onto a winding body and subsequently withdrawing the winding body from the central area of the data storage medium. Nakayama *et al.* does not disclose the data storage medium nor the steps of forming this data storage medium as recited in claim 7. The office action refers to the winding of the optical tape on cylindrical body 33 in Nakayama *et al.* as allegedly disclosing the features of claim 7. However, among other things, as noted above, the optical tape of Nakayama *et al.* is helically, not spirally, wound onto cylindrical body 33.

Claims 10-29 have been added. The subject matter of these new claims is fully supported by the original disclosure and no new matter is added. Claims 10 and 11 each depends from claim 1 and are believed to be allowable for at least the reasons advanced with respect to claim 1. Claims 12-15 depend directly or indirectly from claim 7 and are believed to be allowable because of this dependency and because of the additional patentable features recited therein. For example, claims 13-15 relate to a spiral-like contour of the winding body. An illustrative, non-limiting, example winding body 40 having such a contour is shown in Figure 3. No such winding body is taught or even suggested by Nakayama *et al.* Claims 16 and 17 relate to a method for using a data storage medium including an optical information carrier which comprises a spiral-wound polymer film, the central area of the data storage medium being provided with a recess whose periphery is formed by the innermost winding of the polymer film. A read device having a read beam is disposed in the recess of the data storage medium. As discussed above, Nakayama *et al.* does not disclose a data storage medium having the claimed features, nor does Nakayama *et al.* disclose disposing a read device in the recess of such a data storage medium as claimed. Claims 18-29 relate to a data storage medium including a spirally-wound information carrier, the central area of the data storage medium being provided with a recess which contains no winding core and whose periphery is formed by the innermost winding of the information carrier. Nakayama *et al.* does not disclose, among other things, a spirally-wound information carrier whose innermost winding forms the periphery of a recess in the central area of a data storage medium.

LEIBER, J. et al.


Appl. No. 10/030,474

Response to Office Action dated December 8, 2003

The pending claims are believed to be in condition for allowance and favorable office action is respectfully requested.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: 
Michael J. Shea
Reg. No. 34,725

MJS:lmr
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100